

REMARKS

Applicants note that the above-identified application became abandoned for failure to file a timely and proper reply to an Office Action dated October 8, 2003 as indicated in the Notice of Abandonment mailed April 20, 2004, and the present amendment is accompanied by a Petition for Revival of an Application for Patent Abandoned Unintentionally under 37 CFR 1.137(b). Such Petition is accompanied by the appropriate Petition fee, the reply, as submitted herewith, and applicants submit that the entire delay in filing the required reply from the due date for the required reply until the filing of a grantable Petition under 37 CFR 1.137(b) was unintentional. Accordingly, granting of the Petition and favorable action on the reply, submitted herewith, is respectfully requested.

By the present amendment, the claims which stand withdrawn from consideration, i.e. claims 10, 11, 14, 18-22, 25 and 26 have been canceled without prejudice to the right to file a divisional application directed thereto. Furthermore, claims 1 and 7 have been canceled without prejudice or disclaimer of the subject matter thereof, with claims 6, 9 and 23 dependent upon claim 1 being written in independent form and informalities corrected. Claim 24 which depends from claim 23 has been retained in dependent form and additionally, a new dependent claim 27 has been presented which depends from claim 6 and recites further features of the present invention.

As to the rejection of claims 1, 6, 7 and 24 under 35 U.S.C. 103(a) as being unpatentable over Hamada et al (US 5,194,974) in view of Matsuda et al (US 5,352,907); the rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable over Hamada et al (US 5,194,974) and Matsuda et al (US 5,352,907) and further in view of Katayama (US 5,625,589); and the rejection of claim 23 under 35 U.S.C. 103(a) as being unpatentable over Hamada et al (US 5,194,974) and Matsuda et al (US 5,352,907) and further in view of Boyd et al (US 4,472,026); such rejections are

traversed, and reconsideration and withdrawal of the rejections are respectfully requested.

As to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not

only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

In setting forth the rejection of claim 6, the Examiner contends that Hamada et al discloses the recited features of parent claim 1 other than the display data holding circuit having one of a coplanar and an inverse stagger structure. To overcome such deficiency of claim 1, the Examiner contends that Matsuda et al discloses thin film transistor circuits of a coplanar as well as an inverse stagger structure, referring to col. 1, lines 49-54 of Matsuda et al, and that it would be obvious to combine Hamada et al and Matsuda et al to provide the claimed features. Contrary to the position set forth by the Examiner, applicants submit that it is not seen that Matsuda et al discloses a display data holding circuit connected to a corresponding scanning electrode and signal electrode and having one of a coplanar and an inverse stagger structure. Rather, Matsuda et al merely discloses such type of structure for a thin-film transistor utilized in conjunction with a liquid crystal display device. Thus, applicants submit that the proposed combination of Matsuda et al and Hamada et al represents a hindsight reconstruction attempt utilizing the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra. Accordingly, applicants submit that contrary to the position set forth by the Examiner, the recited features of parent claim 1 which are now incorporated into claim 6, as written in independent form, are not disclosed or taught by the cited art in the sense of 35 U.S.C. 103.

Turning to the features of claim 6, the Examiner contends that:

Regarding claim 6, Hamada et al. discloses the display data holding circuit includes a thin film transistor [Fig.4, TFT1] having a gate connected to the corresponding scanning electrode and one of a drain and a source connected to the corresponding signal line, and a capacitor [Fig. 4; C] at least partially formed by a portion of one of the drain and the source of the thin film transistor (see Column 5, Lines 53-65).

Looking to Fig. 4 of Hamada et al, while TFT₁, as pointed out by the Examiner, has a gate connected to the corresponding scanning electrode Y₁ and one of a drain and source connected to the corresponding signal electrode X₁, Fig. 4 illustrates that one of the drain and source of the thin film transistor TFT₁ is electrically connected to a capacitor C₁ by way of a wire connection. Applicants submit that there is no disclosure in Hamada et al that a capacitor is at least partially formed by a portion of one of the drain and the source of the thin film transistor as recited in claim 6. Applicants note that Fig. 4 clearly illustrates that an electrode of the capacitor C₁ is separate from the drain or source of the thin film transistor, but is electrically connected thereto by way of a wire connection. Moreover, the description at col. 6, lines 16-20 of Hamada et al in connection with Figs. 1 and 2 and the corresponding description at col. 7, lines 54-59 of Hamada et al, clearly evidences that the capacitor C₁ is not partially formed by a portion of one of the drain and the source of the thin film transistor TFT₁. That is, as indicated in the aforementioned portions of Hamada et al, the source and drain of the thin film transistor TFT₁ is made of "n⁺a-Si/Ti", whereas the capacitor C₁ is made of "Ta/Ta₂O₅·SiN_x/Ti". As is apparent, the makeup of the source and drain of TFT₁ and that of the capacitor C₁ differ from one another such that applicants submit that Hamada et al specifically discloses that the recited features of claim 6 are not provided thereby, and applicants submit that the recited features of claim 6 are contrary to the disclosure of Hamada et al. In accordance with the present invention as described in Figs. 5-7 at page 15, line 12 to page 16, line 2, and page 16, line 25 to page 17, line 7, an island Si pattern of the TFT portions 10 and 11 are formed by patterning, and the resultant layers are used as lower electrodes 54 of the sampling capacitor 11. As described, the sampling capacitor can be formed so as to incorporate the whole source region of the sampling TFT, and applicants submit that such features as recited in claim 6 are not disclosed in the cited art, such that claim 6

patentably distinguishes over the cited art and should be considered allowable thereover. Thus, applicants submit that claim 6 patentably distinguishes over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

Applicants note that by the present amendment, a new dependent claim 27 has been presented, which depends from claim 6 and recites the feature that one electrode of the capacitor is formed of a same material as a material of one of the drain and the source of said thin film transistor. Applicants submit that dependent claim 27 recites further features of the present invention which are not disclosed or taught by Hamada et al, such that claim 27 with its parent claim 6, should be considered allowable over the cited art in the sense of 35 U.S.C. 103.

Turning to claim 9, this claim again has been written in independent form incorporating the features of parent claim 1 therein and defines the data display holding circuit as including a thin film transistor connected in the manner of TFT₁ of Hamada et al. However, claim 9 further defines the feature of "a static memory circuit connected to the other of the drain and the source of said thin film transistor, the static memory circuit including a plurality of thin film transistors". Applicants note that such feature is directed to the structural arrangement as illustrated in Fig. 4 of the drawings of this application, wherein the thin film transistor 10 is connected to the static memory circuit 13 of the plurality of transistors, as illustrated, and as described at page 14, line 16 to page 15, line 1, the plurality of TFTs is used as a memory circuit which enables the state written in to be maintained until the electric power is shutoff, such that display of the pixel can be maintained for a long time. The Examiner recognizes that "neither Hamada et al nor Matsuda et al expressly discloses a static memory circuit". The Examiner however contends that Katayama discloses substituting a capacitor plus transistor circuit with a static memory circuit including a plurality of thin film transistors, referring to col. 1, lines 46-57 of such

patent, contending that it would have been obvious to one skilled in the art to combine the prior art. Applicants note that the Examiner's characterization that neither Hamada et al nor Matsuda et al expressly discloses a static memory circuit is misleading in that Hamada et al describes the capacitor C₁ in connection with the transistor TFT₁ as constituting a sampling/holding circuit and provides no disclosure or teaching of a display data holding circuit including a thin film transistor and a static memory circuit connected to the other of the drain and source of the thin film transistor, the static memory circuit including a plurality of thin film transistors. Likewise, Matsuda et al does not provide any disclosure or teaching of this claimed structure.

With respect to Katayama, applicants note that Katayama relates to an LSI memory circuit for a DRAM in which a transistor and a specified quantum element are combined. Katayama fails to disclose a static memory circuit forming part of a display data holding circuit of a liquid crystal display apparatus as claimed, it being noted that the thin film transistor and static memory circuit is utilized in the present invention of the liquid crystal display apparatus, so that display data is stored and is not changed by the memory effect until the power is cutoff. Therefore, the display picture is held for a long time as described at pages 15 and 16 of the specification of this application, and applicants submit that Katayama does not disclose the recited features of claim 9 in the context of a liquid crystal display apparatus operating in the manner defined, nor can it be considered obvious to combine the same with Hamada et al and Matsuda et al in the manner suggested by the Examiner. That is, applicants submit that such proposed combination represent a hindsight reconstruction attempt utilizing the principle of "obvious to try" as well as an attempt to utilize the teachings of the inventors herein against such inventors which is also not permitted. See In re Lee, supra. Thus, applicants submit that claim 9 also

patentably distinguishes over the cited art in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

As to independent claim 23, this claim has been written in independent form incorporating the features of parent claim 1 therein, which patentably distinguish over Hamada et al and Matsuda et al for the reasons given above. Claim 23 further recites the feature that the display electrode is an opaque reflection electrode arranged in overlapping relationship with at least one of the scanning electrode, signal electrode and a thin film transistor for enabling driving of the liquid crystal display apparatus in a reflection type display mode. As described at page 31, line 7 to page 32, line 18 of the specification of this application, "Because the reflection electrode can be laid in overlapping relationship with the TFT, the component of the pixel, and the wires by electrically insulating them, it is possible to further enlarge the region of the display." Moreover, because the selected display electrode is connected to the common electrode through the pixel driving TFT, the voltage of the display electrode is not effected, due to the capacity coupling of the scanning electrode with the signal electrode and, as a result, optimum display can be obtained. Additionally, because it is impossible directly to the portion of the display electrode which forms a shadow, from the front of the panel, the light emission to a TFT is remarkably reduced by locating the TFT at that position, and if the apparatus is used at the outside, a strong light may remarkably increase an OFF current of the TFT in the apparatus, and thus deteriorate the characteristic of the display of the apparatus. It is possible to avoid the increase in the OFF current by adopting the configuration according to the present invention. Applicants submit that as recognized by the Examiner "neither Hamada et al nor Matsuda et al expressly disclose the display electrode is an opaque reflection electrode arranged in an overlapping relationship with at least one of the scanning electrode, the signal electrode and a thin film transistor for enabling driving of the liquid crystal display

apparatus in a reflection type display mode". However, the Examiner contends that such features are disclosed by Boyd et al and it would have been obvious to one skilled in the art to use Boyd's opaque reflection electrode in the combination of Hamada et al and Matsuda et al. Irrespective of the Examiner's position concerning Boyd et al, applicants submit that it is not seen that Boyd et al discloses the claimed arrangement in conjunction with a thin film transistor as recited in claim 23 operating in the manner defined, and applicants submit that there is no disclosure or teaching in Hamada et al and Matsuda et al of the proposed combination. In this regard, it may be assumed that the disclosure of Boyd et al which issued in 1984 and was available to both Hamada et al and Matsuda et al, was specifically rejected by these later issued patents, and that the combination suggested by the Examiner only comes about by a hindsight reconstruction attempt utilizing the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra. Thus, applicants submit that claim 23 patentably distinguishes over the proposed combination of references in the sense of 35 U.S.C. 103, and should be considered allowable thereover.

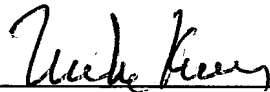
With respect to claim 24, applicants note that this claim which depends from claim 23 stands rejected only over the combination of Hamada et al and Matsuda et al, with the Examiner recognizing that such patents do not disclose the claimed features of claim 23 which are necessarily incorporated therein. Thus, the rejection of claim 24 does not utilize the patent to Boyd et al, and applicants submit that the rejection of claim 24 is in error and should be withdrawn. Assuming arguendo that the Examiner combines Hamada et al and Matsuda et al with Boyd et al, in a manner similar to that of claim 23, applicants submit that such combination is also improper for the reasons given above, and that claim 24 also patentably distinguishes over the cited art and should now be in condition for allowance.

In view of the above amendments and remarks, applicants submit that the only claims remaining in this application, i.e. claims 6, 9, 23, 24 and 27, patentably distinguish over the cited art and should now be in condition for allowance.

Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (503.35282CX2) and please credit any excess fees to such deposit account.

Respectfully submitted,



Melvin Kraus

Registration No. 22,466

ANTONELLI, TERRY, STOUT & KRAUS, LLP

MK/cee
(703) 312-6600